

I CLAIM:

1. A folding knife, comprising:

a handle including an end face having a first locking element;

a blade pivotably connected to the handle in a manner allowing pivoting of the blade

5 from a closed position in which the blade extends along the handle, to an open position in which the blade extends away from the handle; and

a second locking element mounted for sliding movement along the blade, the second locking element being movable between a first position in which the second locking element engages at least part of the first locking element in a manner preventing pivoting of the blade  
10 relative to the handle, and a second position spaced from the first locking element in which the blade is free to pivot relative to the handle;

the end face of the handle being configured such that, as the blade is pivoted from the closed position towards the open position, the second locking element, when in the first position, is spaced from the end face of the handle for a substantial portion of the movement  
15 of the blade from the closed position to the open position.

2. The folding knife of claim 1, wherein during blade pivoting from the closed position towards the open position, the second locking element first contacts the end face of the handle after the blade travels at least approximately 75% of the total travel between the  
20 closed position and the open position.

3. The folding knife of claim 1, wherein the first locking element includes a notched corner in the end face of the handle configured to receive the second locking element.

5 4. The folding knife of claim 1, wherein the blade includes a slot and the second locking element extends through the slot and is configured to slide along the slot.

5. The folding knife of claim 4, wherein the second locking element includes a neck received in the slot, and one or more retainers configured to retain the neck in the slot.

10 6. The folding knife of claim 5, wherein the neck has opposite ends, and the retainers include enlarged knobs on the ends of the neck.

15 7. The folding knife of claim 6, wherein the knobs are mounted co-axially on the ends of the neck.

8. The folding knife of claim 6, wherein the slot includes a first portion sized to laterally receive at least one of the knobs and a second portion sized to prevent passage of the knobs laterally.

20 9. The folding knife of claim 8, further comprising a retaining element configured to prevent movement of the neck from the second portion of the slot into the first portion of the slot.

10. The folding knife of claim 9, wherein the retaining element is positioned within the first portion of the slot.

5 11. The folding knife of claim 10, further comprising a bias element configured to urge the neck towards the end face of the handle.

12. The folding knife of claim 11, wherein the retaining element supports the bias element in the slot.

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13. The folding knife of claim 12, wherein the retaining element includes an elongate portion extending into the second portion of the slot, and the elongate portion supports the bias element.

15 14. The folding knife of claim 10, wherein the retaining element is configured to expand upon receipt of an expander, the folding knife further comprising an expander received by the retaining element, whereby the retaining element is secured in the slot.

20 15. The folding knife of claim 14, wherein the retaining element includes a hole configured to receive the expander.

16. The folding knife of claim 14, wherein the expander includes a ball bearing.

17. A folding knife, comprising:

a handle including an end with an exposed exterior edge surface, the exposed exterior edge surface includes a latching corner;

5 a blade pivotably connected to the handle so that the blade is configured to move between a closed position extending along the handle and an open position extending away from the handle, the blade including a slot extending transverse to the edge surface and having an end adjacent to the edge surface when the blade is in the open position; and

a post slidably mounted in the slot, the post being spaced from the edge surface during blade motion from the closed position towards the open position until the post engages the latching corner of the exposed exterior edge surface as the blade reaches the open position, when the post is in the end of the slot.

18. The folding knife of claim 17, wherein the post includes a pin, and one or more enlarged ends connected to the pin.

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19. The folding knife of claim 18, wherein the slot includes a first portion configured to receive the pin, and a second portion including the end of the slot and configured to enable the pin to slidably engage the latching corner of the handle.

20. The folding knife of claim 19, further comprising a retaining element configured to fit in the first portion of the slot, and thereby secure the post in the second portion of the slot.

21. The folding knife of claim 20, further comprising a bias element configured to urge the post towards the end of the slot.

22. The folding knife of claim 21, wherein the retaining element supports the bias  
5 element in the slot.

23. The folding knife of claim 22, wherein the retaining element includes an elongate portion extending into the second portion of the slot, and the elongate portion supports the bias element.  
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24. The folding knife of claim 20, wherein the retaining element is configured to expand upon receipt of an expander, the folding knife further comprising an expander received by the retaining element, whereby the retaining element is secured in the slot.

15 25. The folding knife of claim 24, wherein the retaining element includes a hole configured to receive the expander.

26. The folding knife of claim 24, wherein the expander includes a ball bearing.

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27. A folding knife, comprising:

a handle;

a blade pivotably connected to the handle so that the blade is configured to move between a closed position extending along the handle and an open position extending away from the handle, the blade including a slot, the slot including a wide portion and a narrow portion; and

a locking mechanism configured to lock the blade in the open position, the locking mechanism including a post having a neck and one or more enlarged ends, the neck being slidably mounted in the slot, and at least one of the one or more enlarged ends being sized to pass laterally through the wide portion of the slot but not through the narrow portion of the slot.

28. The folding knife of claim 27, further comprising a retaining element configured to fit in the slot and prevent movement of the neck from the narrow portion of the slot to the wide portion of the slot.

29. The folding knife of claim 28, further comprising a bias element configured to urge the post towards an end of the slot.

30. The folding knife of claim 29, wherein the retaining element supports the bias element in the slot.

31. The folding knife of claim 30, wherein the retaining element includes an elongate portion extending into the narrow portion of the slot, and the elongate portion supports the bias element.

5 32. The folding knife of claim 28, wherein the retaining element is configured to expand upon receipt of an expander, the folding knife further comprising an expander received by the retaining element and configured to secure the retaining element in the slot.

10 33. The folding knife of claim 32, wherein the retaining element includes a hole configured to receive the expander.

34. The folding knife of claim 32, wherein the expander includes a ball bearing.

15 35. The folding knife of claim 27, wherein the handle includes an end with an exposed exterior edge surface, the exposed exterior edge surface includes a latching element, and further wherein the at least one of the one or more enlarged ends being configured to engage the latching element of the exposed exterior edge surface when the blade is in the open position.

36. A method of assembling a locking mechanism on a blade for a folding knife, the blade including an elongate slot configured to receive a locking element, the method comprising:

5 inserting the locking element into a first portion of the slot;  
sliding the locking element along a second portion of the slot;  
inserting a retaining element into the slot; and  
inserting a bias element into the slot between the locking element and the retaining  
element.

10 37. The method of claim 36, further comprising expanding the size of the retaining element in a manner securing the retaining element in the slot.

15 38. The method of claim 37, wherein the retaining element includes a hole configured to receive an expander, and expanding the size of the retaining element includes inserting the expander into the hole of the retaining element.

39. The method of claim 38, wherein the expander includes a ball bearing.



40. A method of assembling a locking mechanism on a blade for a folding knife, the knife including a post with two enlarged ends, a bias element with a first end and a second end, and a retaining element including a rounded portion and an elongate portion, the elongate portion including a recess, and the blade including a slot with a first portion and a second portion, the second portion including an end opposite the first portion, the method comprising:

inserting an enlarged end of the post through the first portion of the slot;

sliding the post along the second portion of the slot to an end of the second portion opposite the first portion;

inserting the first end of the bias element into the recess in the elongate portion of the retaining element;

placing the second end of the bias element against the post;

inserting the retaining element into the slot, with the rounded portion of the retaining element in the first portion of the slot and the elongate portion of the retaining element

extending into the second portion of the slot; and

moving the second end of the bias element into position in the slot between the two enlarged ends.

41. The method of claim 40, wherein placing the second end of the bias element against the post includes placing the second end against one of the enlarged ends.

42. The method of claim 40, wherein inserting the retaining element is substantially simultaneous with placing the second end of the bias element against the post.

43. The method of claim 40, wherein the retaining element is expandable and includes a hole, the method further comprising inserting an expander into the hole of the retaining element, whereby the retaining element is expanded and secured in the slot.

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44. The method of claim 40, wherein the expander includes a ball bearing.